

Notice of Allowability

Application No.

10/622,201

Examiner

David H. Kruse

Applicant(s)

BARRY ET AL.

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed on 18 August 2005.
2. ☒ The allowed claim(s) is/are 1-6,8,10-16,18,19,21-33,35,36,38-52,57,58,69-85,88-97,102-131 and 134-155.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 7/12/2005
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date SAME.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☒ Other See Continuation Sheet.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Janelle D. Waack on 7 September 2005.

The Examiner acknowledges the cancellation of patented claims 7, 9, 17, 20, 34,37, 53-56, 59-68, 86 and 87.

The application has been amended as follows:

28 (Amended). A glyphosate-tolerant plant comprising the plant cell [cells] of claim 27.

74 (Amended). A glyphosate-tolerant plant comprising the [a] DNA molecule of [claims 5, 8 or 10] claim 137 in which:

(a) the promoter is selected from the group consisting of CaMV 35S and FMV 35S promoters;

(b) the structural DNA sequence encodes[:];

(i) a chloroplast transit peptide selected from the group consisting of SEQ ID NO:11, SEQ ID NO:13, SEQ ID NO:15 and SEQ ID NO:17; and

(ii) an EPSPS enzyme selected from the group consisting of SEQ ID NO:3, SEQ ID NO:5, and SEQ ID NO:7 [, SEQ ID NO:42 and SEQ ID NO:44];
and

Art Unit: 1638

(c) the 3' non-translated region is selected from the group consisting of the NOS 3' and the E9 3' non-translated regions.

79 (Amended). A seed of [a] the glyphosate-tolerant plant of claim 28, wherein the seed comprises the recombinant DNA molecule.

80 (Amended). A seed of [a] the glyphosate-tolerant plant of claim 31, wherein the seed comprises the recombinant DNA molecule.

81 (Amended). A seed of [a] the glyphosate-tolerant plant of claim 75, wherein the seed comprises the recombinant DNA molecule.

82 (Amended). A seed of [a] the glyphosate-tolerant plant of claim 76, wherein the seed comprises the recombinant DNA molecule.

83 (Amended). A seed of [a] the glyphosate-tolerant plant of claim 77, wherein the seed comprises the recombinant DNA molecule.

84 (Amended). A seed of [a] the glyphosate-tolerant plant of claim [78] 135, wherein the seed comprises the recombinant DNA molecule.

85 (Amended). A seed of [a] the glyphosate-tolerant plant of claim [79] 150, wherein the seed comprises the recombinant DNA molecule.

91. The method of claim 19 in which the structural DNA sequence encodes an EPSPS enzyme having a sequence selected from the group consisting of SEQ ID NO: 42 and SEQ ID NO: 44.

92. The method of claim 33 in which the structural DNA sequence encodes an EPSPS enzyme having a sequence selected from the group consisting of SEQ ID NO: 42 and SEQ ID NO: 44.

94. The DNA molecule of claim 49 in which the structural DNA sequence encodes an EPSPS enzyme having a sequence selected from the group consisting of SEQ ID NO: 42 and SEQ ID NO: 44.

95. The DNA molecule of claim 50 in which the structural DNA sequence encodes an EPSPS enzyme having a sequence selected from the group consisting of SEQ ID NO: 42 and SEQ ID NO: 44.

96. The DNA molecule of claim 51 in which the structural DNA sequence encodes an EPSPS enzyme having a sequence selected from the group consisting of SEQ ID NO: 42 and SEQ ID NO: 44.

97. The DNA molecule of claim 52 in which the structural DNA sequence encodes an EPSPS enzyme having a sequence selected from the group consisting of SEQ ID NO: 42 and SEQ ID NO: 44.

113. A method of producing a genetically transformed plant which is tolerant toward glyphosate herbicide, comprising the steps of:

a) inserting into the genome of a plant cell a recombinant double-stranded DNA molecule comprising:

i) a promoter that functions in plant cells to cause the production of an RNS sequence;

ii) a structural DNA sequence that causes the production of an RNS sequence which encodes an EPSPS enzyme having the sequence of SEQ ID NO: 70;
and

iii) a 3' non-translated DNA sequence that functions in plant cells to cause the addition of a stretch of polyadenyl nucleotides to the 3' end of the RNS sequence;

wherein the promoter is heterologous with respect to the structural DNA sequence and adapted to cause sufficient expression of the polypeptide to enhance the glyphosate tolerance of a plant cell transformed with the DNA molecule;

b) obtaining a transformed plant cell; and

c) regenerating from the transformed plant cell a genetically transformed plant which has increased tolerance to glyphosate herbicide.

119 A glyphosate-tolerant plant cell comprising a DNA sequence encoding an EPSPS enzyme having the sequence of SEQ ID NO: 70.

120 A glyphosate-tolerant plant comprising a DNA sequence encoding an EPSPS enzyme having the sequence of SEQ ID NO: 70.

126. A seed of the plant of claim 120, wherein the seed comprises the DNA sequence encoding an EPSPS enzyme having the sequence of SEQ ID NO: 70.

134. A glyphosate tolerant plant cell comprising the recombinant DNA molecule of claim 107.

135. A plant comprising the glyphosate tolerant plant cell of claim 134.

138. The DNA molecule of claim 137 in which the structural DNA sequence encodes a fusion polypeptide comprising an amino-terminal chloroplast transit peptide and the EPSPS enzyme.

Art Unit: 1638

141. The DNA molecule of claim 138 in which the structural DNA sequence encodes a chloroplast transit peptide selected from the group consisting of SEQ ID NO: 11 and SEQ ID NO: 15.

145. The method of claim 144, wherein the chloroplast transit peptide has the sequence of SEQ ID NO: 11 or SEQ ID NO: 15.

149. A glyphosate-tolerant plant cell comprising the DNA molecule of claim 137.

150. A plant comprising the glyphosate-tolerant plant cell of claim 149.

152. A glyphosate-tolerant plant comprising an EPSPS enzyme having the sequence of SEQ ID NO: 3, SEQ ID NO: 5 or SEQ ID NO: 7.

153. The glyphosate-tolerant plant cell of claim 149 or 151 selected from the group consisting of corn, wheat, rice, barley, soybean, cotton, sugarbeet, oilseed rape, canola, flax, sunflower, potato, tobacco, tomato, alfalfa, poplar, pine, eucalyptus, apple, lettuce, peas, lentils, grape, and turf grasses.

154. The glyphosate-tolerant plant of claim 150 or 152 selected from the group consisting of corn, wheat, rice, barley, soybean, cotton, sugarbeet, oilseed rape, canola, flax, sunflower, potato, tobacco, tomato, alfalfa, poplar, pine, eucalyptus, apple, lettuce, peas, lentils, grapes, and turf grasses.

2. Applicant's attorney Janelle Waack approved the above amendments in a telephone interview on 7 September 2005 to correct matters of form.

Art Unit: 1638

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (571) 272-0799. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached at (571) 272-0745. The fax telephone number for this Group is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (571) 272-0547.

DAVID H. KRUSE, PH.D.
PRIMARY EXAMINER



David H. Kruse, Ph.D.
12 September 2005

4. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Continuation of Attachment(s) 9. Other. Additional PTO-1449s considered; 4/18/2005 and 4/29/2005.